44.   The method of claim 41, wherein said managing comprises performing said I/O admission control by monitoring the number of existing viewers served from said at least two storage devices or partitioned groups of storage devices, and monitoring the data consumption rate of said existing viewers; balancing said I/O capacity with said buffer memory space based at least in part on said monitored number of existing viewers and said monitored data consumption rates of said existing viewers; and determining whether or not a capacity of said system is sufficient to support at least one additional viewer based at least in part on said balancing of said I/O capacity with said buffer memory space; and

wherein said managing further comprises determining said read-ahead size by monitoring the number of existing viewers served from said at least two storage devices or partitioned groups of storage devices, and monitoring the data consumption rate of said existing viewers; balancing said I/O capacity with said buffer memory space based at least in part on said monitored number of existing viewers and said monitored data consumption rates of said existing viewers; setting a cycle time based at least in part on said balancing of said I/O capacity with said buffer memory space; and determining a number of read ahead data blocks based at least in part on said cycle time, said monitored data consumption rate, and a size of said data blocks.

45.   The method of claim 30, wherein individual storage devices of said at least two storage devices or partitioned groups of storage devices comprise storage disk drives; and wherein said modeling comprises modeling utilization of at least one of said I/O resources based at least in part on at least one system I/O performance characteristics associated with said I/O resources, said I/O system performance characteristics comprising at least one of seek and rotation latency, estimated transfer rate, or a combination thereof.

46.   The method of claim 28, wherein said modeling comprises modeling utilization of at least one of said I/O resources based at least in part on at least one estimated system I/O performance characteristics; and wherein said method further comprises validating an estimated value of at

least one of said system I/O performance characteristics by measuring a value of said at least one system I/O performance characteristic, and comparing the measured value of said at least one system I/O performance characteristic to the estimated value of said at least one system I/O performance characteristic.

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47.   The method of claim 46, wherein said method further comprises reporting an alarm based at least in part on said comparison of the measured value of said at least one system I/O performance characteristic to the estimated value of said at least one system I/O performance
10   characteristic.

48.   The method of claim 27, wherein said modeling comprises modeling utilization of at least one of said I/O resources based at least in part on at least one system I/O performance characteristics; wherein said at least one storage device comprises a disk drive and wherein said
15   individual storage devices of said at least one partitioned group of storage devices comprise storage disk drives; and wherein said system I/O performance characteristics comprise at least one of average access time, average transfer rate, number of viewers, estimated consumption rate, sustained transfer rate, combined internal and external transfer rate, average seek time, average rotation delay, average time spent for inter-cylinder moves by a read head, Skew value,
20   or a combination thereof.

49.   A method of managing I/O resources in an information delivery environment, comprising performing admission control and determining read-ahead size for a storage system based at least
25   in part on modeled utilization of at least one I/O resources of said storage system.

50.   The method of claim 49, wherein said information delivery environment comprises delivery of continuous media data from an information management system to a plurality of
30   viewers across a network; and wherein said I/O resources comprise I/O capacity and buffer memory space of said information management system.

51. The method of claim 50, wherein said information management system comprises a content delivery system that includes a storage system; said content delivery system being coupled to said network; and said storage system including said I/O resources and having at least one storage device or at least one partitioned group of storage devices.

52. The method of claim 51, wherein said performing admission control comprises using said modeled utilization of said I/O resources to determine whether or not said storage system has sufficient I/O capacity and sufficient buffer memory space to support a request for delivery of said continuous media data to a new viewer or an existing viewer returning from a cache state to an I/O state of said storage system, and admitting said viewer to said I/O state of said storage system if said sufficient I/O capacity and said sufficient buffer memory space exist; and wherein said determining read-ahead size comprises re-determining a read-ahead size for each of the existing viewers in said I/O state of said storage system if said new or returning existing viewer is admitted to said I/O state of said storage system, wherein said read-ahead size is determined based at least in part on I/O capacity of said storage system, buffer memory space of said storage system, the total number of existing viewers in said I/O state of storage system, and the data consumption rate of said total number of viewers in said I/O state of said storage system.

53. The method of claim 52, wherein said read-ahead size is determined for each of said existing viewers in said I/O state of said storage system prior to admitting said new viewer or returning existing viewer to said I/O state of said storage system.

54. The method of claim 53, wherein said storage system comprises at least two storage devices or at least two partitioned groups of storage devices.

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